

RFP B3404RFP009-3X
Questions & Answers
July 30, 1999

Cover Letter

COV-3 Reference: Page 5, Section 10, Security Clearances

Question: The RFP, states: ... ^The cost for a ^Q~ or ^L~ security clearance will be borne by the Laboratory, while the costs for security escort services necessary for uncleared subcontractor personnel in on-site performance in a classified area will be borne by the Subcontractor.~

- (a) If we submit an uncleared individual for a security clearance, what is the estimated/average length of time (weeks/months) until the clearance is granted?
- (b) Are there any other Agency/Organization security access/clearances that could be crossed-over to the DOE, and if so which ones transfer and how long does that process take (estimated)?
- (c) Typically how long does it take to go from an existing ^L~ to a ^Q~?
- (d) Finally, please elaborate on the hourly charge for the security escort service; what are the typical rates and are there local firms available to contract with?

Response: The following information should be considered estimates only based on recent Laboratory experience for obtaining security clearances. The actual length of time is dependent upon the specific background of the individual requesting the clearance. It is also anticipated that the time frames mentioned below will have improved by the time the ASCI 30 TeraOPS contract is awarded.

- (a) The current estimate to obtain a "L" clearance for an uncleared individual is approximately 3 to 4 months. The current estimate to obtain a "Q" clearance for an uncleared individual is approximately 6 to 8 months. There is an accelerated process available that decreases the amount of time to obtain either an "L" or a "Q" clearance to a total of approximately two months. However, this process is strictly voluntary on the part of the individual obtaining the clearance, requires that the individual agree to a polygraph and drug test as well as a psychological evaluation, and has very stringent requirements as to who is eligible for this expedited process.
- (b) Security clearances held at other Government agencies or organizations can be transferred to the DOE if they are current or have been in current within 30 days of the transfer request. Transfer of these clearances from other agencies to the DOE usually takes a couple of weeks.
- (c) In general, it has been taking 3 to 4 months to upgrade from an existing "L" to a "Q" clearance.
- (d) The following two firms who have been providing escort services to Laboratory subcontractors and should be contacted directly to obtain typical rates:

The Plus Group
Ms. Kathy Montoya
(505) 662-9636

Comforce
Ms. RoseAnn Casale
(800) 300-4880

Attachment 1 – Descriptive Information

A1-1 **Reference:** RFP Section: Attachment 1, Table 2, Page vi , Subject: Memory Tests

Question: Table 1 references overwriting all memory locations with random characters and leaving it powered off. There is a concern that there is no way to ensure that one can hit all memory locations if the memory module is defective. Memory modules usually fail/go defective because a memory location can no longer be written to/or read from. Additionally, we believe that degaussing has also been proven as no guarantee one can effect a defective location. Additionally, which procedure is appropriate for CPU modules with onboard Cache?

We recommend that since memory is volatile, the only thing that should have to be done is for the subcontractor to ensure a defective memory module or CPU module with onboard cache has been without power for 24 hours before being removed from the site.

The fact that the memory or cache failed makes it impossible to authoritatively guarantee that all memory has been cleared. With maintenance costs in mind, will LANL let the subcontractor remove memory modules or CPU modules, with onboard cache, from the site?

Response: Present security regulations allow the subcontractor to remove from the site memory modules or CPU modules with onboard cache.

A1-2 **Reference:** RFP Section: Attachment , Page Number 17, Subject: Power and Cooling.

Question: In the Strategic Computing Complex (SCC), will any portion of the initially installed 7.1 MW of power be used to generate the 6,000 tons of cooling? If so, how much power will remain for use by the installed 30 TeraOPS system?

Response: The initially installed 7.1 MW of power in the SCC will be used for both power and cooling. Our current estimate is that approximately 5 MW will be available for the 30 TeraOPS system and the remainder will be used for the building.

Attachment 2 – Functional Requirements

A2-14 **Question:** Physical memory is generally measured in powers of two. For example, when a person references a "kilobyte" of physical memory they are actually referring to 2^{10} bytes or 1,024 bytes of memory. In the same fashion, a "terabyte" is actually 2^{40} bytes or 1,099,511,627,776 bytes of physical memory.

Storage vendors historically measure the capacities of their devices in factors of 10. A device capable of holding a "kilobyte" of data generally holds $1.E+3$ or exactly 1,000 bytes rather than 1024, and a device with the capacity of a "terabyte" equals exactly $1.E+12$ or 1,000,000,000,000 bytes.

While this difference is relatively insignificant at smaller levels of comparison, the scale of the requirements for ASCI 30 TeraOPS (i.e. 12 Terabytes of physical memory and 50

bytes of storage per byte of physical memory) lead to large differences in capacity due to the differing definitions of "terabyte".

Please clarify the usage of term "terabyte" for memory and storage sizing purposes.

Response: You should measure quantity with the "historical" usage, i.e. memory is measured in powers of two, while storage, flops, etc. are measured in powers of ten. In particular, 12 Terabytes of memory is $12 \times 2^{40} = 13.19413952$ trillion bytes.

A2-15 **Question:** Please address the following question with regard to the calculation of "theoretical peak floating-point operations".

What weighting factor will be applied to operations other than individual floating point add and multiply instructions? For example, some architectures support compound instructions that compare 2 floating point operands and move a value into a destination register depending on the result. Another example is the "muladd" operation, which multiplies two operands and adds the result to a third. Do such compound operations count as a single OP? What weight is applied to "complex" operations like divide and square root?

Please clarify the calculation of "theoretical peak floating-point operations" and specifically address whether muladd hardware capability should be given the full status of a floating-point unit in the calculation.

Response: Because of the variety of processor architectures and lack of an existing standard to reference, we cannot provide you with additional clarification. Your proposal should identify what the theoretical peak floating-point operations for your processor is and describe how the value for peak floating-point was derived.

Attachment 3 – Proposal Preparation Instructions

A3-7 **Reference:** Attachment 3, Section G, Oral Presentations

Question: Under the referenced section to the RFP, the Ground Rules limit the participation to only 8 people from the supplier and its Subcontractors. We believe we can more favorably represent our commitment to the ASCI 30T program and the degree of organizational representation by having at least 12 people present, and would prefer having 14 persons. Limiting attendance to 8 persons restricts our ability to demonstrate our degree of commitment and provide an in-depth response to questions and problem solving exercise. We hereby request that participation be increased to allow for 14 people from the supplier and its subcontractors to attend.

Response: The intent of this requirement was not to artificially constrain the number of presenters but rather to ensure that presenters are the actual key personnel who will perform or personally direct the work being described. The number of company and subcontractor attendees will be addressed with firms at the time they are invited to make an oral presentation.

Attachment 4 – Evaluation Criteria

No questions at this time

Attachment 5 – Model Subcontract

A5–5 **Reference:** Model Subcontract Special Provision F.19, Responsibility of Subcontractor Personnel

Question: RFP states, ^ that tasks on which Subcontractor personnel provide services shall remain under the supervision, management, and control of the University~.

This imposes a significant pricing/cost risk to a firm fixed price contract. Would Los Alamos consider deleting this requirement or changing the contract type for on site labor?

Answer: This special provision applies only to services performed within the scope of the 30 TeraOPS contract. Some examples of Laboratory defined tasks include such things as setting priorities and defining tasks for the Subcontractor on-site analysts, setting priorities for repairs or bug fixes, determining when the 30 TeraOPS system can be released for repair or maintenance work, etc. If necessary, further clarification of this clause can be addressed during contract negotiations.

A5–6 **Reference:** Form 7500, Article B14, Audit and Records – Negotiation

Question: Can Los Alamos please clarify why Paragraph B14 is being incorporated in the model subcontract terms and not B16. Audit ~ Commercial Items? Would Los Alamos consider Changing to B16?

Additionally, it was noted that Far 15.804–1 (a) (2), found in B16, is no longer in effect.

Answer: General Provisions clause B14, Audit and Records – Negotiation, was determined to be a more appropriate clause for this procurement than clause B16, Audit – Commercial Items. Clause B16 is generally used to determine the accuracy of pricing information for which " . . .the same or similar items have been sold in the commercial market . . ." Although the 30 TeraOPS system will be comprised of commercial products, the 30 TeraOPS system itself has never been produced by any supplier nor is it likely that the Subcontractor will sell systems that are the "same or similar" to the 30 TeraOPS system in the market place during the contact period.

Sample Applications

APPS–3 **Question:** Please provide the following JTPack output files to support the JTPack porting and debugging efforts:

(a) Please provide the JTPack output file BCGS–JAC–1.0–1_2.dat which would be produced in the jtpack90–10.12/test/out/IRIX6.5_unknown_unknown_Double/ directory (the directory is present in the jtpack tar file, but there are no files in it).

(b) Please make a JTPack run with the following changes and provide the results.

% diff jtpack90.in.orig jtpack90.in

5c5
< 2 iout (0 => none)

> 6 iout (0 => none)

Response: The requested information has been added to the JTPack sample applications web page.